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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/641,350	08/14/2003	Christopher Kempson Shaw	194-26936-US	9812

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PAUL S MADAN
MADAN, MOSSMAN & SRIRAM, PC
2603 AUGUSTA, SUITE 700
HOUSTON, TX 77057-1130

EXAMINER

BOMAR, THOMAS S

ART UNIT	PAPER NUMBER
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3672

DATE MAILED: 03/31/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/641,350

Applicant(s)

SHAW ET AL.

Examiner

Shane Bomar

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 March 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-42 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10, 12-32 and 34-42 is/are rejected.
- 7) ☒ Claim(s) 11 and 33 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Objections

1. Claim 36 objected to because of the following informalities: the recitation of “pumping the fluid into the production fluid” should most likely be --pumping the chemical into the production fluid--. Appropriate correction is required.

Claim Rejections - 35 USC § 103

2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

3. Claims 1-10, 12-14, 16-32, and 34-42 are rejected under 35 U.S.C. 103(a) as being unpatentable over US patent 6,772,840 to Headworth in view of US patent 6,539,778 to Tucker et al.

Headworth teaches a system and associated flow assurance method for injecting one or more additives into production fluid produced by at least one subsea well, the system comprising: a) an inherent surface chemical supply unit for supplying at least one chemical to a selected subsea location (inherent because the chemicals must come from the surface before being introduced subsea); b) at least one chemical supply line 80, 70 for carrying the at least one chemical from the surface to the selected subsea location; and c) a subsea chemical injection unit 70 at the selected subsea location receiving the at least one chemical from the surface chemical supply unit and selectively injecting the at least one chemical into the production fluid (see Figs. 2, 3, 5, 7, 11-13, and 16, and col. 6, line 42 through col. 8, line 62). The system further comprising: a controller, or control valve, responding to a parameter of interest from a sensor, or

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a plurality of distributed sensors (see col. 16, line 56 through col. 17, line 3, and col. 28, lines 14-20); an inherent storage unit for the chemicals since the line 70 is said to hold the chemicals in one embodiment (see col. 28, lines 22-24), and wherein the storage unit is adapted to be refilled remotely; a plurality of lines 701 and 71 supply a plurality of chemicals (see col. 12, lines 30-32); the chemical supply unit can be on a rig (see Fig. 3), or on a buoy (see Fig. 2 where 42 acts like a buoy, or Fig. 14), wherein it would be inherent that the chemicals are stored in some type of unit for supplying the supply unit, and that if the chemical supply becomes depleted but the operations still require the chemicals, then the storage unit would be refilled when such a need arose; it is seen to be inherent that some form of mixer would be needed to mix more than one chemical together before being injected; conductors 104 supply power, and can be seen as a subsea power unit for the injector, especially since the valves 194 of the tubing must be powered (see col. 16, lines 48-49); a riser transports the production fluid and the chemical supply line is in the riser (see Figs. 2, 3, 5, 7, 11-13, and 16), or it could be outside, as is old in the art (see col. 27, lines 27-31); the sensor is located at least one of the claimed locations (see col. 16, line 56 through col. 17, line 21); there are a plurality of wells 52 and the injection unit separately supplies the wells (see Figs. 3, 11, and 16); a subsea processing unit 69 receives production fluid via line 56 (see Fig. 2); the injection unit injects chemicals into at least one of the currently claimed elements (see Figs. 2-16); line 70 also acts as a heating device to heat the production fluid with an inherent source of power (see col. 11, lines 11-14); a surface controller remotely controls the valves 194 (see col. 28, lines 14-20); and the processing unit at least partially refines the production fluid as is well known in the art, and transports it to the surface via a fluid line

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(see col. 10, lines 28-63). The method also inherently measures a parameter of interest because it is well known in the art that fiber optic line sensors take these types of measurements.

However, it is not explicitly taught that the chemical is injected into the production fluid by a subsea pump because the chemicals are pumped from the surface vessel. Tucker et al teach a production pipeline 16 similar to the pipeline 50 of Headworth, wherein Headworth is concerned with keeping the inside of the pipeline clean. Tucker et al further teach that a subsea vehicle 18 replaces conventional long coiled tubing and surface pumps used for cleaning the inside of pipelines with pigs and/or chemicals, wherein the vehicle 18 has its own pumps for injecting chemicals into the pipeline (see Fig. 1 and col. 1, lines 44-63). It would have been obvious to one of ordinary skill in the art, having the teachings of Headworth and Tucker et al before him at the time the invention was made, to replace the chemical injection system taught by Headworth with the subsea vehicle of Tucker et al, in order to obtain a system and method that does not require surface pumps and long distances of tubing. One would have been motivated to make such a combination because the elimination of the surface pumps, long distances of tubing, and other associated equipment reduces the overall costs and maintenance requirements of the operation.

4. Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Headworth in view of Tucker et al as applied to claim 14 above, and further in view of US patent 6,281,489 to Tubel et al.

The combination applied to claim 14 teaches the system that comprises a subsea power unit. However, it is not expressly taught that the power unit includes an electrical battery that is periodically charged from the surface.

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Tubel et al teach a system for injecting chemicals to treat a production fluid and the use of batteries in the subsurface wellbore environment as a power source. It is further taught that the batteries are periodically charged from the surface (see col. 19, lines 11-19). It would have been obvious to one of ordinary skill in the art, having the teachings of the combination and Tubel et al before him at the time the invention was made, to modify the system taught by the combination to include the subsurface rechargeable battery power supply of Tubel et al, in order to obtain an alternate power source that is easily replenishable. One would have been motivated to make such a combination for the aforementioned reason, and because Tubel et al have shown it to be notoriously known in the art to use rechargeable batteries in the well art as power supplies.

Allowable Subject Matter

5. Claims 11 and 33 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

6. Applicant's arguments, see pages 9-11, filed March 17, 2006, with respect to the rejection(s) of claim(s) 1-10, 12-14, 16-32, and 34-42 under 35 USC 102 have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Headworth and Tucker et al.


Conclusion


7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Appleford et al and Chitwood et al teach subsea operations of particular interest.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shane Bomar whose telephone number is 571-272-7026. The examiner can normally be reached on Monday - Thursday from 6:30am to 4:00pm. The examiner can also be reached on alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Bagnell can be reached on 571-272-6999. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


David J. Bagnell
Supervisory Patent Examiner
Art Unit 3672

tsb 
March 27, 2006